

24,7700
S/058/61/000/010/084/100
A001/A101

AUTHORS: Tovstyuk, K.D., Nikolayeva, Ye.A.

TITLE: Longitudinal galvanomagnetic effect in germanium-type hole semiconductors

PERIODICAL: Referativnyy zhurnal. Fizika, no. 10, 1961, 266, abstract 10E313
("Nauchn. yezhegodnik za 1957. Chernovitsk.un-t", Chernovtsy, 1958,
477)

TEXT: The authors calculate longitudinal galvanomagnetic effect in p-semiconductors of Ge-type using the law of dispersion (RZhFiz, 1957, no. 5, 12214). It is assumed that relaxation time exists and its dependence on energy is of the conventional type. A longitudinal galvanomagnetic effect, different from zero, has been obtained due to anisotropic part of energy. The result agrees with experiments, provided that the length of free path is assumed to be $\sim 10^{-6}$ and 10^{-5} cm at room and liquid nitrogen temperature respectively. The effect is investigated separately for light and for heavy holes. VB

[Abstracter's note: Complete translation]

Card 1/1

24,7700(1136,1164,1385)

30954
S/576/61/000/000/011/020
E073/E435

AUTHORS: Tovstyuk, K.D., Gusev, S.M., Rakin, G.V.

TITLE: Mobility of current carriers in cadmium antimonide

SOURCE: Soveshchaniye po poluprovodnikovym materialam, 4th.
Voprosy metallurgii i fiziki poluprovodnikov; polu-
provodnikovyye soyedineniya i tverdyye splavy.
Trudy soveshchaniya. Moscow, Izd-vo AN SSSR, 1961.
Akademiya nauk SSSR. Institut metallurgii imeni
A.A.Baykova. Fiziko-tehnicheskiy institut, 88-91

TEXT: The physical properties of CdSb were studied by measuring the temperature dependence of the electrical conductivity and the Hall effect on ten specimens of differing purities, using the graphical method of W.Dunlap (Ref.2: Phys. Rev. 1950, 79, 286). The CdSb was produced by using spectrally pure components obtained by multiple vacuum distillation. During fusion, continuous stirring was employed and the single crystals were grown by zone fusion in a nitrogen atmosphere. The measurements were made on uniform single crystal specimens which were carefully thermostated inside a liquid. The purest specimen.

Card 1/4

30954
S/576/61/000/000/011/020
E073/E435

Mobility of current carriers ...

had an impurity concentration of 10^{15} cm^{-3} . Plots are included of the temperature dependence of the electrical conductivity and of the Hall effect. In the temperature range 333 to 350°K , an inversion of the sign of the Hall effect was observed, the purer the specimens the lower was the point of inversion on the temperature scale. The ratio of the Hall mobility b of electrons to that of holes for two of the specimens were determined by the formula

$$\frac{R_{\max}}{R_S} = - \frac{(b - 1)^2}{4b} \quad (1)$$

where R_S is the Hall effect in the saturation range of the curve, R_{\max} is the Hall effect at the point of the maximum $R(T)$. In the given case for $T = 333^\circ\text{K}$, $b = 1.135$ and for $T = 345^\circ\text{K}$, $b = 1.390$. As was shown by Dunlap and by Hunter (Ref. 5: Phys. Rev., 1954, 94 1157), the results of the measurements of the Hall effect and of the specific resistance can be conveniently interpreted by means of the graphical plotting of R/ρ as a function of ρ , which has the shape of an ellipse and the parameters of which permit determining the Hall mobility of the electrons and holes. The Card 2/4

Mobility of current carriers ...

30954

S/576/61/000/000/011/020

E073/E535

authors plotted such ellipses for the temperatures 274 and 294°K. In both cases the centres of the ellipse are displaced along the R/ρ axis to the side of positive R/ρ values, which indicates that at these temperatures the holes are more mobile than the electrons in CdSb, for T = 274°K, b = 0.555 and for T = 294°K, b = 0.572. The authors did not possess adequate data for determining the law governing the temperature dependence of b. However, the existence of an inversion of the sign of the Hall effect at temperatures above 333°K and the displacement of the centres of the ellipses towards positive R/ρ values at the temperatures 274 and 294°K indicate that b increases with increasing temperature. Consequently, the temperature dependence of the mobility of the holes is more pronounced (larger by approximately twice at T = 274°K) than that of the electrons. The dependence of the Hall effect on the magnetic field strength H was measured at the temperatures T = 294 and 194.1°K. The results are plotted. In all cases the Hall effect increases with increasing intensity of the magnetic field. This indicates that in CdSb the Hall mobility of holes is smaller than the drift

Card 3/4

Mobility of current carriers ...

30954
S/576/61/000/000/011/020
E073/E535

mobility, which can be explained by the complicated structure of the energy spectrum of the holes. There are 4 figures and 6 references: 3 Soviet and 3 non-Soviet. The English-language references are quoted in the text.

[Abstractor's Note: Slightly abridged translation.]

4

Card 4/4

S/185/62/007/011/017/019
D234/D303

AUTHORS: Tovstyuk, K.D. and Havaleshko, M.P.

TITLE: The magnetic susceptibility of HgTe

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 11, 1962,
1253-1254

TEXT: The experiments were conducted on monocrystals between 90 and 400°K. The susceptibility is negative and the general diamagnetism decreases with temperature, indicating that the electron gas is paramagnetic. This cannot be explained by the simple model in which the energy band is characterized by the effective mass only; the sign of the susceptibility of the carriers would be determined by the sign of $1 - \frac{1}{3} (m/m^*)^2$, which is about -10^3 .

It is concluded that the interaction with higher bands, as in InSb, leads to the change of sign because the forbidden band is much narrower than in InSb. There is 1 figure.

ASSOCIATION: Chernivetskyy derzhuniversytet (Chernovtsi State Univ.)

~~Card 1/2~~

S/185/62/007/012/005/021
D234/D308

AUTHORS:

Tovstyuk, K.D. and Borets', O.M.

TITLE:

A graphical method of determining the optical mono-crystalline semiconductors by measuring the transmission

PERIODICAL:

Ukrayins'kyy fizichnyy zhurnal, v. 7,
no. 12, 1962, 1285 - 1290

TEXT:

In a plane parallel plate of a thickness d,
if $k^2/n^2 \ll 1$, the transmission of light is

$$T = \frac{J}{J_0} = \frac{(1 - r)^2 \cdot e^{-\alpha d}}{1 - r^2 e^{-2\alpha d}}. \quad (3)$$

In order to find the absorption coefficient one must measure T in two specimens having different thicknesses d_1 and d_2 and equal reflection coefficients r. Since

Card 1/3

A graphical method ...

S/185/62/007/012/005/021
D234/D308

$$\ln \alpha = \ln \ln \frac{(1-r)^2 + \sqrt{(1-r)^4 + 4T^2 r^2}}{2T} - \ln d = \ln \ln f_T(r) - \ln d. \quad (6)$$

one obtains two equations

$$\ln \alpha = \ln f_{T_1}(r) - \ln d_1, \quad (7)$$

$$\ln \alpha = \ln f_{T_2}(r) - \ln d_2.$$

To determine the absorption coefficient it is necessary to plot $\Phi_T(r)$ on transparent paper and to place two such graphs over one another on ordinary paper where coordinate axes are marked, the distances between the coordinate origins of the graphs and that of the paper being $\ln d_1$ and $\ln d_2$. The points of intersections of the curves give the solutions (7). Methods of other authors are reviewed. There are 2 figures, 1 table and 8 references: 5 Soviet-bloc and 3 non-Soviet-bloc.

Card 2/3

A graphical method ...

S/185/62/007/012/005/021
D234/D308

ASSOCIATION:

Chernivets'kyy derzhuniversytet
(Chernovtsay State University)

SUBMITTED:

June 9, 1962

Card 3/3

S/181/63/005/001/023/064
B102/B186

AUTHORS: Tovstyuk, K. D., and Gemus, D. M.

TITLE: The structure of the spectrum of CdSb-type crystals

PERIODICAL: Fizika tverdogo tela, v. 5, no. 1, 1963, 142-146

TEXT: Group-theoretical methods based on previously published results (e. g. E. I. Rashba, FTT, 1, 407, 1959; V. E. Sheka, FTT, 2, 1211, 1960; FTT, 4, 983, 1962) were used to investigate the dispersion law for crystals of the space group D_{2h}^5 in the environment of extremal points. The quantities

$$V_1 = -\frac{eh}{4m^2c^2} (\sigma [\nabla\Phi \times p]), \quad V_2 = \frac{\hbar}{m} (Kp),$$

$$V_3 = \frac{\hbar^2 K^2}{2m}, \quad V_4 = \frac{eh^2}{4m^2c^2} (K[\nabla\Phi \times \sigma])$$

are considered as perturbations (cf. Sb. FFT, II, 162, 1959); \vec{K} is a small vector which begins at the extremum. When spin is not taken into account, for the $E_1 - E_8$ representation

The structure of the spectrum of ...

S/181/63/005/001/023/064
B102/B186

$$E(K) = AK^2 + a_1 K_x^2 + b_1 K_y^2 + c_1 K_z^2 \quad (1)$$

and for $\sum_{i=1}^4 [n_i, n_i]$

$$E(K) = AK^2 + a_2 K_x^2 + b_2 K_y^2 + c_2 K_z^2 \quad (2)$$

are obtained. If spin is taken into account, one obtains

$$E(K) = AK^2 + a_3 K_x^2 + b_3 K_y^2 + c_3 K_z^2 \quad (3)$$

for the representation $M_3(M_1) - M_4(M_2)[N, L]$. If, however, spin-orbital interaction is taken into account, 12 extremal points arise which are
Card 2/3

The structure of the spectrum of ...

S/181/63/005/001/023/064
B102/B186

shifted with the axes perpendicularly to the latter. With certain values of the parameters these points become degenerate and form an elliptic loop (cf. Rashba and Sheka). There is 1 figure and 1 table.

ASSOCIATION: Chernovitskiy gosudarstvennyy universitet (Chernovtsi State University)

SUBMITTED: April 14, 1962 (initially)
July 23, 1962 (after revision)

Card 3/3

S/181/63/005/003/019/046
B102/B180

AUTHORS: Tovstyuk, K. D., and Tarnavskaya, M. V.

TITLE: Investigation of the energy spectrum of crystals with
 $O_h^1 - O_h^{10}$ structure

PERIODICAL: Fizika tverdogo tela, v. 5, no. 3, 1963, 819-838

TEXT: The energy characteristics of all symmetry groups from O_h^1 to O_h^{10} , which are calculated by means of group-theoretical methods, are clearly represented and discussed. The compatibility of the representations, the points of zero inclination of the energy in the Brillouin zone and the dispersion laws in their environment are determined. There are 3 figures and 6 tables.

ASSOCIATION: Chernovitskiy gosudarstvennyy universitet (Chernovtsy State University)

Card 1/2

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

APPROVED FOR RELEASE: 04/03/2001

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APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

matrix by acoustic lattice modes and the known thermal emf of PbSe, the authors

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

L 36262-66 ESC(k)-2/EWP(t)/STI TATEL JB

ACC NR: AP6018338 SOURCE CODE: GE/0030/66/013/001/0207/0214

AUTHOR: Tovstyuk, K. D.; Bercha, D. M.; Pankevich, Z. V.; 32
B
Rarenko, I. M.

ORG: State University of Chernovtsy, Ukrainian SSR

TITLE: Piezoresistance of cadmium antimonide

SOURCE: Physica status solidi, v. 13, no. 1, 1966, 207-214

TOPIC TAGS: cadmium antimonide, piezoresistance, piezoelectric effect, crystal symmetry

ABSTRACT: A theoretical and experimental investigation of the piezoresistance of p- and n-type CdSb has been carried out. The stress applied along the three crystal axes produced a change in the resistance of the opposite sign. The proposed theory of nonequivalent valley Δ , Λ , and Γ , which follows from the low symmetry of the crystal, explains the observed effects in n-type CdSb, while the theory involving three nonequivalent shifts in valence maximums in Γ is in good agreement with the experimental results for the

Card 1/2

L 36262-66

ACC NR: AP6018338

p-type CdSb. Orig. art. has: 4 figures and 10 formulas. [Based on
authors' abstract] [NT]

SUB CODE: 20, 11/ SUBM DATE: 200ct65/ ORIG REF: 007/ OTH REF: 008

ms
Card 2/2

L VOL 21-24 ENV 111 ASST C A1

ACC NR: AP6033523 SOURCE CODE: UR/0185/66/011/010/1078/1088
AUTHOR: Budzhak, Ya. S.; Tovstyuk, K. D.; Nemish, I. Yu.

ORG: Chernev State University (Chernivets'kyy derzhuniversytet)

TITLE: Effect of nonparabolicity of energy bands on the kinetic properties of semiconductors

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 10, 1966, 1078-1088

TOPIC TAGS: Fermi gas, current carrier, relaxation process, integral equation, energy band, kinetic property, nonparabolicity, semiconductor

ABSTRACT: The concentration of current carriers of some kinetic coefficients are calculated for the cases of undegenerated and greatly degenerated Fermi gases with nonparabolic isotropic laws of dispersion. The scattering processes are described by the relaxation time $\tau = \tau_0(T) p^{3/2} \left(\frac{de}{dp} \right)$, where r depends on the

scattering mechanism only. All kinetic integrals are integrated in general form for any r and expressed through known special tabulated functions. An analysis is given for the equations obtained for cases of weak and strong spectrum nonparabolicity.

Orig. art. has: 5 figures and 42 formulas. [Based on authors' abstract]

SUB CODE: 20/ SUBM DATE: 24Dec65/ ORIG REF: 007/ OTH REF: 008/

Card 1/1 nst

L 1436-66 EWT(1)/E/T(m)/ETC/ENG(m)/T/E/P(t)/E/P(b)/EWA(h) IJP(c) RDW/JD/AT
ACCESSION NR: AP5019862 UR/0181/65/007/008/2437/2443

AUTHOR: Bercha, D. M.; Pankevich, Z. V.; Savitskiy, A. V.; Tovstyuk, K. D.

TITLE: Piezoresistance of Sb₂Te₃

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2437-2443

TOPIC TAGS: antimony telluride, crystal lattice, semiconductor, piezoelectric, group theory, piezoelectric effect

ABSTRACT: In view of the fact that the compound Sb₂Te₃ has been little investigated in the past, and not at all from the point of view of the structure of the energy bands, the authors supplement the group-theoretical analysis with measurements of piezoresistance, for the purpose of establishing some of the distinctive features of the carrier spectrum. The p-type single crystals were obtained by zone refining technique and the measurements were made on plates measuring 15 x 2 x 2 mm cut both parallel and perpendicular to the c-axis (which in turn was perpendicular to the cleavage plane). The sample conductivity at room temperature ranged from 2.6 x 10² to 5 x 10³ ohm⁻¹cm⁻¹. The measurements were made at temperatures 100--300K. The accuracy was 20--25%. The diagonal components of the piezoresistance tensor were found to be approximately one--two orders of magnitude larger (- 70 x 10¹² cm²/dyne) than the off-diagonal ones (~3 x 10¹²) and exhibited a slight

Card 1/2

L 1436-66

ACCESSION NR: AP5019862

temperature dependence. The results are attributed to the complexity of the valence band, the extrema of which are located on the symmetry planes and at the center of the band. The experimental data also help clarify the hitherto confusing situation with respect to the type of space symmetry possessed by the Sb_2Te_3 lattice, since they indicate that the lattice cannot belong to the D_{3d}^5 group, thus leaving only C_{3v}^5 and D_3^7 as alternatives. Orig. art. has: 4 figures, [02] 7 formulas, and 3 tables.

3

ASSOCIATION: Chernovitskiy gosudarstvennyy universitet (Chernovtsi State University) 44, 55

SUBMITTED: 18Jan65

ENCL: 00

SUB CODE: SS, EM

NO REF SOV: 007

OTHER: 004

ATD PRESS: 4100

Card 2/2. D.R.

L 4433-66 EWT(1)/EWT(m)/ETC/ENG(m)/ENP(t)/ENP(b) IJP(c) RDN/JD
ACCESSION NR: AP5017900 UR/0051/65/019/001/0115/0120
535.312:535.33 + 535.34 44,45 52

AUTHORS: Savitskiy, A. V.; Kurik, M. V.; Tovstyuk, K. D. 44,45 49

TITLE: Optical properties of zinc telluride. I. Fundamental absorption edge 47 27

SOURCE: Optika i spektroskopiya, v. 19, no. 1, 1965, 115-120

TOPIC TAGS: zinc compound, optic material, telluride, absorption edge, optic property, optic transition, forbidden band

ABSTRACT: Reflection and absorption in ZnTe single crystals were investigated at temperatures 300, 77, 20.4, and 4.2K. The zinc telluride was synthesized by a standard procedure and the single crystal obtained by the Bridgman method. The optical measurements were made photographically and photoelectrically. A spectrometer based on a SPM-2 monochromator (Zeiss) was used for the transmission measurements. According to their optical properties, the crystals could be separated into two types. At low temperatures (20.4 and 4.2K) the

Card 1/2

L 4433-66

ACCESSION NR: AP5017900

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001756420011-4³
crystals of the first type gave no fine structure in the absorption spectra, whereas the crystals of the second type had a weak line structure over the fundamental absorption background at the beginning of the long-wave length absorption. A narrow reflection, which is an exciton line in ZnTe, can be observed at low temperatures. Direct and indirect optical transitions were observed, and energy-band parameters and their temperature dependences were obtained. At room temperature, the separation between the maximum of the valence band and the minimum of the conduction band at the point $k = 0$ is equal to 2.255 ev, and the width of the forbidden band is equal to 2.176 ev.
The authors thank M. S. Brodin for a helpful discussion. Orig. art. has: 5 figures, 4 formulas, and 1 table.

ASSOCIATION: None

SUBMITTED: 30Jun64

ENCL: 00

SUB CODE: OP, 55

NR REF SOV: 002

OTHER: 007

Card 2/2

TOMOVICH, V.O.; MIRSKY, A.V. [New York, N.Y.]

Magnetic susceptibility of zinc sulfide. Ukr. Fiz. Z., 1963, v. 38, p. 165.

1. Chernov's theory of magnetic susceptibility.

ZHAD'KO, I.P.; RASHBA, E.I.; ROMANYU, V.A.; STAKHIRA, I.M.; TOVSTYUK, K.D.

Anisotropy of the electric and photoelectric properties of
In₂Se. Fiz. tver. tela 7 no. 6:1777-1782 Je '65.
(MIRA 18:6)

I. Institut poluprovodnikov, Ak UkrSSR, Kiyev.

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

Magnetic properties of semiconductors. K. D. Tovstyuk.

This presentation consisted of the following papers:

Anisotropy of susceptibility of semiconductors. K. D. Tovstyuk,
E. I. Slyntko, I. M. Stakira, O. M. Boretz.

Magnetic and thermomagnetic properties of HgTe, PoTe, hgSe, PbSe.
K. D. Tovstyuk, M. P. Gavaleshko, Ya. S. Budzhak, P. M. Starik,
P. I. Voronyuk.

Magnetic susceptibility of CdTe and ZnTe. I. V. Potykevich,
A. V. Savitskiy.

Magnetic properties of the system HgTe-CdTe. K. D. Tovstyuk,
I. M. Rarenko, I. V. Potykevich.

Anisotropy of the thermal conductivity of CdSb. I. M. Pilat, L. I.
Anatychyuk.

Electrical, magnetic, and optical properties of the system In₂Te₃-CdTe.
I. V. Potykevich, A. I. Belyayev, S. V. Chepura.

Properties of crystals of CdSb doped with elements of groups IV and VI.
S. M. Gusev.

Report presented at the 3rd National Conference on Semiconductor Compounds,
Kishinev, 16-21 Sept 1963

TOVSTYUK, K.D.; BUDZHAK, Ya.S.; TARNAVSKAYA, M.V. [Tarnav's'ka, M.V.]

Structure of current carrier zones in PbSe. Ukr. fiz. zhur.
8 no.7:795-797 Jl '63. (MIRA 16:8)

(Lead selenide--Electric properties)

S/0181/64/006/003/0662/0679

ACCESSION NR: AP4019823

AUTHORS: Tovstyuk, K. D.; Bercha, D. M.

TITLE: Symmetry of zones in D_{2h}^1 -- D_{2h}^{16} , D_2^1 -- D_2^4 , C_{2v}^1 -- C_{2v}^{10} crystals

SOURCE: Fizika tverdogo tela, v. 6, no. 3, 1964, 662-679

TOPIC TAGS: semiconductor, Brillouin zone, crystal structure, crystal symmetry

ABSTRACT: This work stems from the growing use of noncubic crystals as semiconductors. The authors have used the techniques developed by G. Ye. Pilus (ZhETF, 40, 1258, 1961; 41, 1507, 1961), E. I. Rashba (FTT, 1, 407, 1959), and I. V. Sheka (FTT, 2, 1121, 1960). They have investigated the theory of the space groups D_{2h}^1 -- D_{2h}^{16} , D_2^1 -- D_2^4 , and C_{2v}^1 -- C_{2v}^{10} (all the cubic groups with Γ , translations). Lengthy tables have been prepared to list compatibility, secondary degeneracy because of time inversion, zero slope of $E(K)$ at points of highest symmetry in the Brillouin zone, and also the dispersion law in the vicinity of points of possible extremes of $E(K)$. "The authors express their thanks to E. I. Rashba for valuable discussions of this work." Orig. art. has: 3 tables and 20 formulas.

Card 1/2

ACCESSION NR: AP4019823

ASSOCIATION: Chernovitskiy gosudarstvennyy universitet (Chernovtsy State
University)

SUBMITTED: 24Apr63

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: SS, EC

NO REF SOV: 005

OTHER: 001

Card 2/2

TOVSTYUK, K.D.; TARNAVSKAYA, N.V. [Tarnav's'ka, M.V.]

Symmetry of energy bands of current carriers in cubic crystals.
Ukr. fiz. zhur. 9 no.6:629-641 Je '64.

(MIRA 17:11)

1. Chernovitskiy gosudarstvennyy universitet.

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOVSTYUK, K.D.; SUSHKEVICH, T.N. [Sushkevych, T.N.]

Zone symmetry in crystals of groups $\frac{O_{11}}{2V}$ - $\frac{D_{17}}{2V}$, $\frac{D_5}{2}$, $\frac{D_5}{2}$, $\frac{D_{17}}{2h}$ - $\frac{D_{24}}{2h}$.

Ukr. fiz. zhur. 9 no.9:932-942 S 16%.

(MIRA 17:11)

1. Chernovitskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

TOVSTYUK, K.D.; BUDZHAK, Ya.S.

Magnetic susceptibility of lead selenide. Ukr. fiz. zvys. 9
no.11:1203-1208 N '64 (NIRA 1821)

1. Chernovitskiy gosudarstvennyy universitet.

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOVSTYUK, K.D.; GAVALESHKO, N.P.; RARENKO, I.M.

Galvanomagnetic and thermomagnetic effects in HgTe. Izv.
AN SSSR. Ser. fiz. 28 no.6:1048-1050 Je '64. (MIRA 17:7)

1. Chernovitskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOVSTYUK, K.D.; SAVITSKIY, A.V.

Magnetic susceptibility of ZnFe. Izv. AN SSSR. Ser. fiz. 28
no.6:1051-1052 Je '64. (MIRA 17:7)

1. Chernovitskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: 04/03/2001

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"APPROVED FOR RELEASE: 04/03/2001

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APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

L 3'29.1 pg. ETI(m)/EMP(u)/T/EMP(t)/ETI 1JP(c) ID
ACC NR: AR6005809 SOURCE CODE: UR/0137/65/000/010/1065/1065

7.2
8

AUTHOR: Tovstykh, Ye. V.

TITLE: Resistance of shipbuilding steel in a state of work hardening and age
hardening to explosive stress 14

SOURCE: Ref. zh. Metallurgiya, Abs. 101446

REF SOURCE: Tr. Leningr. korablestroit. in-ta, vyp. 46, 1964, 9-15

TOPIC TAGS: structural steel, work hardening, metal aging, shock wave, explosive
stress 14

ABSTRACT: An investigation concerning 4s and SKhL-4 steel has been carried out. The criterion for the quality evaluation of Me was the amount of the weighed sample of trotyl, during the detonation of which the failure of the sample was visible to the eye, as well as the external appearance of the failure (viscous, brittle, etc.). Work hardening and subsequent strain aging has an adverse effect on the specific resistance of shipbuilding steel to the action of explosive wave. The recrystallization annealing employed in the shipbuilding industry does not entirely restore the explosion resistivity of work-hardened steel. I. Tulupova. [Translation of abstract.] [NT]

SUB CODE: 11, 13/ SUBM DATE: none

UDC: 669.14

Card 1/1 ZC

KOMENDAR, V.I.; TOVT, Ye.S. [Tovt, IE.S.]

Discovery of the hard grass Sclerochloa dura (L.) P.B. in
Transcarpathia. Ukr. bot. zhur. 22 no.2:105 '65. (MIRA 18:4)

1. Uzhgorodskiy gosudarstvennyy universitet, kafedra morfologii i
sistematiki rasteniy.

TOWARNICKI, Robert

Vascularization of the pineal body in E. *Sox lucius* L. Fol. morph.,
Warsz. 5 no.4:287-306 1954.

1. Z Zakladu Anatomii Ryb Wyższej Szkoły Rolniczej Olsztyn-Kortowo.
Kierownik: prof. dr R.Towarnicki.

(FISH,
pike, pineal blood supply)
(PINEAL BODY, blood supply,
in pike)

TOWARNICKI, Robert, prof.,dr.

The vascular system of the pituitary body of the pike "Esox
Lucius L) and the importance of this organ in fishes in ge-
neral. Folia morphol 21 no.1:1-20 '62

1. Kierownik Zakladu Anatomii i Embriologii Ryb Wyzszej Szkoly
Rybniczej w Olsztynie.

BLAWAT, Franciszek; ZAWISTOWSKI, Stanislaw; KOWALSKA, Zyna; TOWIANSKA, Anna

Cytochemical studies of vaccinia-virus -infected cells. Pt.4.
Bull. Inst. Mar. Med. Gdansk 16 no.3/4:139-146 '65.

1. From the Institute of Marine Medicine in Gdansk and from
the Department of Histology and Embryology, the Medical
Academy in Gdansk

BLAWAT, Franciszek; ZAWISTOWSKI, Stanislaw; KOWALSKA, Zyta; TOWIANSKA,
Hanna

Cytochemical studies of vaccinia-virus-infected cells. III. Further
studies on the activity of oxidative enzymes in vaccinia-virus-
infected cultures of FL and L cells. Bull. inst. mar. med. Gdansk
16 no.1:7-20 '65.

1. From the Institute of Marine Medicine in Gdansk and from the
Department of Histology and Embryology, the Medical Academy in
Gdansk.

MÜLLER G. and TOWER E. Budapest Székesfövaros Elektromos Művei 'József Attila'
Korházabol. Egyszerű előírás a kreatinin clearance meghatározásáról A simplified method
for the estimation of creatinine clearance Orvosi Hetilap 1949, 90/2 (50-53) Graphs I
Tables I

The creatinine concentration is not estimated separately in plasma and in urine, but in both the creatinine is converted into the picrate and the urine is diluted with picric acid of proper concentration until the colour agrees with that of the plasma. The clearance is computed from the degree of urine dilution.

Kesztyüs - Debrecen

SO: Physiology Biochemistry and Pharmacology. Section II, Vol. 2 No. 9.

CA

118

A simple method for the determination of the creatinine clearance. Gyorgy Neumann and Edwin Tower. *Ovori Hiedap* 90, 80-3(1940).—Five cc. serum, 2 cc. distd. water, and 3 cc. 20% CCl_4COOH are mixed in a centrifuge tube and centrifuged. Then 5 cc. of the supernatant is put into a 50-cc. cylinder with 1 cc. 1.2% picric acid and 1 cc. 10% NaOH and after 12 min. dilid. to 50 cc. Simultaneously 1 cc. urine, 4 cc. picric acid, and 2 cc. NaOH are added to a 200-cc. cylinder and after 6 min. dilid. to the mark. Now 1 cc. of the serum prep. is added to a test tube and 1 cc. of the urine prep. is added to each of 5 test tubes and dilid. with a soln. contg. 3 cc. 1.2% picric acid/100 cc. water until the color of the serum prep. tube is reached. The ratio of urine prep. diln. is a measure of difference of urine and plasma creatinine concn. The clearance values were in normal men 129, in women 120.0, calcd. to a body surface of 1.73 sq. m.

Istvan Finlay

A1-2
Sub Atomics &
Atomic Structures

Atoms clocks and frequency stabilisation on microwave spectral lines. C. H. Townes. J. appl. Phys., 1951, 22, 1365-1372).— Application of the various types of radio-frequency spectral lines to accurate frequency stabilisation and time standards is surveyed. Pertinent characteristics of microwave gas absorption lines and the various types of errors in frequency stabilisation due to the nature of these absorption lines or to fundamental thermal noise are discussed in detail. It is shown that time standards synchronised with microwave absorption in NH_3 , or resonances in mol. or at. beams have limits of accuracy of the order of 1 part in 10^{12} for a short time, and still smaller limiting fractional errors over longer periods of time.
C. B. Noetzel.

21

Low Temperature Treatment of Steel and Alloys. A Tomasz
(Przeglad Techniczny, 1981, Jan., pp. 19-22). (In Polish)
The importance of low-temperature (below 0 °C) treatment
of steel and alloys is discussed. A short survey of research
work on the influence of this treatment on the martensite
martensite transformation is given. V. H.

AIR-SEA METALLURGICAL LITERATURE CLASSIFICATION

CLASS NUMBER

SEARCHED FILE ONLY JRC

COLLECTED

LOW BOUND

COLLECTED ONLY JRC

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

B1-5 Ferrous Metallurgy

Dr. Abo.

Low-temperature treatment of steel and alloys. A. Tsvetkov
(Przeglad Techn., 1951, No. 1, 19-23; J. Iron Steel Ind., 1951, 100.
440).—The influence of low-temp. ($<0^\circ$) treatment of steel on the
austenite-martenite transformation is reviewed. R. B. CLARKE.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

TCMPIK, A.

Preliminary moistening of unmined coal as a factor in
increasing labor efficiency. Wia dom gorn 12 no. 3:85-86
Mr '61.

TOWPIK, Adam

Chemistry and coal: as based on material taken from Soviet literature. Wiadom gorn 11 no. 7/8:258-259 Jl-Ag '60.

TOWPIK, J.

Evaluation of remote results of the treatment of patients with early syphilis in 1947-1951 and in 1954-1955. · Przegl. derm. 49: 307-311 '62.

l. Z Kliniki Dermatologicznej AM w Warszawie Kierownik: prof. dr S. Jablonska.

(SYPHILIS)

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOWPIK, Jozef

Role and tasks of medical scientific societies. Pelski tygod. lek.
16 no. 7:268-272 13 F '61.

(SOCIETIES MEDICAL)

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

TOWPIK, Jozef

Results of the treatment of early syphilis with penicillin
according to 5 to 15-year follow-up. Pol. tyg. lek. 19 no.25:
952-955 15 Je'64

1. Z Kliniki Dermatologicznej AM w Warszawie; kierownik prof.
dr. S. Jablonska.

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOWPIK, Jozef

Acheivements of the Polish Medical Society during the past 20
years of People's Poland. Pol. tyg. lek. 19 no.36:1353-
1354 7 S '64.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

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APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOWPIK, Jozef

On present treatment of syphilis. Przegl. derm. 52 no.4:
413-417 Jl-Ag '65.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

GAWENDZIERZYNsKA, Irena, TOWPIK, Jozef, MORRIS, Wanda, GUZIKOWSKA, Maria

Level and retention in the blood of domestic procaine penicillin.
Polaki tygod. lek. 13 no.16:591-596 21 Apr 58

l. (Z Zakladu Antybiotykow P.Z.H.; i z Instytutu Dermatologii i Wnerologii
w Warszawie) Adres: Warszawa, ul. Chocimska 24. Zaklad Antybiotykow
P.Z.H.

(PENICILLIN, rel. cpds.
procaine penicillin, level & retention in blood (Pol)

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOWPIK, Jozef (Warsaw)

Historical outlines of the Polish Medical Society. Nauka polska
12 no.1:102-109 Ja-F '64.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

EXCERPTA MEDICA Sec 13 Vol 11/11 Dermatology Nov 57

2562. TOWPIK J. Inst. of Dermatol. and Venereol., Warsaw. *Occurrence of late syphilis in untreated syphilitic patients BRIT.J.VENER. DIS. 1957, 33/1 (2-4) Graphs 2 Tables 4

Of 4,500 patients with different forms of late syphilis seen at the Institute of Dermatology and Venereology in Warsaw from 1950 to 1955, 500 were discovered with untreated syphilis. Their ages ranged from 26 to over 65 yr. The analysis provides some observations on the course of the immunological processes and on the development of late systemic changes in untreated patients. Annan - Darlington

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOWPIK, Jozef

Achievements of Polish venereology in the past 20 years. Przegl.
derm. 51 no.4:i-iv Jl-Ag '64

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

TOWPIK, J.

Activities of the Scientific Council of the State Dermatologic and
Venereologic Institute. Przegl. derm., Warsz. 1 no.3:296-299 Oct-
Dec 1951. (GIML 23:2)

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOWPIK, J.

Activities of the Scientific Council of the State Dermatological and
Venereological Institute. Przegl. derm., Warsz. 1 no.1:81-84 June 1951.
(CIML 23:2)

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

TOWPIK, J.

Results of penicillin therapy of neurosyphilis. Przegl. derm., Warsz.
2 no.4:519-543 Oct-Dec 1952. (CIML 24:2)

1. Of the Dermatological Clinic (Director--Prof. S. Jablonska, M.D.)
of Warsaw Medical Academy and of the Clinical Division (Head--J. Tow-
pik, M.D.) of the Institute of Dermatology and Venereology (Director
--J. Suchanek, M.D.), Warsaw.

TOWPIK, J.; WRONSKI, Z.

Numeric and clinical characteristics of late symptomatic syphilis.
Polski tygod. lek. 7 no. 17:519-526 28 Apr 1952. (CLML 22:4)

1. Of the Clinical Department (Head--J. Towpik, M. D.) of the National Institute of Dermatology and Venereology (Director--J. Suchanek, M. D.)

TOWPIK, J.

"Prevention of Suppurative Skin Diseases. p. 12" (ZDROWIE) Vol. 5, No. 2, 1953,
Warszawa, Poland.

SO: Monthly List of East European Accessions L.C., Vol. 2, No. 1, Nov. 1953, Uncl.

DZULYNSKA, Janina; TOWPIK, Jozef

Cholesterol in the cerebrospinal fluid in neurosyphilis; new method
of determination and clinical evaluation of results. Przegl. derm.,
Warsz. 4 no.6:451-464 Nov-Dec 54.

Institute of Dermatology & Venereology:
1. Z Instytutu Dermatologii i Wenerologii. Dyrektor: doc. dr
J. Suchanek. Kierownik Zakladu Laboratoryjno-Doswiadczenego: prof.
dr L. Rzucidlo. Kierownik Dzialu Klinicznego Wenerologii: doc. dr
J. Towzik. Director of Venereological Clinic (doc. dr J. Towzik)
(CHOLESTEROL, in cerebrospinal fluid, (part of above institution)
in neurosyphilis, determ.)
(CEREBROSPINAL FLUID,
cholesterol, in neurosyphilis, determ.)
(NEUROSYPHILIS, cerebrospinal fluid in,
cholesterol, determ.)

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

1961-8, 1962-1, 1963-2

The Polish Naval Society; a historical outline. Review Pol
Academy 9 no.2:27-93 Ap-Ju '64.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOWPIK, Ryszard, mgr inz.

Fitting of microwave elements by the Rizzi method. Przegl
telekom 34 no.3:79-82 Mr '62.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

TOWPIK, Ryszard, mgr.inz.

Radar installation equipment and microwave components at the
30th International Poznan Fair. Przegl telekom 34 no.10:311-
314 O '61.

POLAND

TOWPIK, Ryszard

Department of Magnetics, Institute of Basic Technical Problems
(Zaklad Magnetykow IITP [Instytut Podstawowych Problemow Techniki])

Warsaw, Przeglad elektroniki, No 12, December 1965, pp 609-615

"3-way S band ferrite circulator."

I 1112c-6 LNA(R), I. S.

ACC NR: AP6001827

SOURCE CODE: P0/0053/65/000/012/0609/0615

18
B

AUTHOR: Towzik, R.

ORG: Institute of Magnetics, IPPT (Zaklad Magnetykow IPPT)

TITLE: Three-port S-band ferrite circulator 25

SOURCE: Przeglad elektroniki, no. 12, 1965, 609-615

TOPIC TAGS: ferrite circulator, storage device

ABSTRACT: Development of a new S107 3-port S-band ferrite-loaded circulator is reported. Each arm of the circulator is adjusted to a minimum standing-wave ratio (SWR) of 1.20 (with other arms terminated by their characteristic impedances); rejection attenuation, 20 db; pass attenuation, 0.5 db; the above parameters hold good within a 20% band. Working band, 2.597--3.948 Gc. A special metal-ferrite correction feature is provided; it includes a metal-ferrite right prism supported by a three-point base. The metal insert improves matching by reducing impedance at the crotch. Impedance characteristics and plots of SWR vs. frequency (2.5--3.5 Gc) are reported. Orig. art. has: 12 figures and 1 table.

SUB CODE: 09 / SUBM DATE: 18Jan65 / ORIG REF: 003 / OTH REF: 001

HW

Card 1/1

TOWTKIEWICZ, Aldona, mgr

Situation of organic chloride compound solvents on the world
market. Chemik 16 no.10:296-298 0 '63.

TOWTKIEWICZ, Aldona, mgr.

Mothanol consumption in the United States. Chemik 16 no.7/8:
223-225 Jl-Ag '63.

1. Zaklady Chemiczne, Oswiecim.

TOWTKIEWICZ, Aldona, mgr.

The development of world chlorine production. Chemik 14 no.10:391-392
O '61.

1. Zaklady Chemiczne, Oświęcim.

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOWTKIEWICZ, Aldona, mgr inż.

Development of the world production of polyethylene. Chemik 15
no. 7/8:278-279 Jl-Ag '62.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOWTKIEWICZ, Aldona, mgr

Production of vinyl plastics in the U.S.A. and Japan. Chemik
15 no.9:339-341 S '62.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

TOWTKIEWICZ, Aldona, mgr

Development of the world production of polypropylene. Chemik
15 no.11:405-407 N '62.

1. Zaklady Chemiczne, Oswiecim.

TOWTKIEWICZ, Aldona, mgr

Competition among acetylene, ethylene, and propylene in the
United States. Chemik 16 no.3:77-81 Mr '63.

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOWTKIEWICZ, Aldona, mgr

Ways of benzene consumption in the United States. Chemik
17 no. 5:167-169 My '64.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

TOWTKIEWICZ, Aldona, mgr inz.

Development of the world production of polystyrene. Chemik 15
no.6:207-210 Je '62.

1. Zaklady Chemiczne, Oswiecim.

TOWTKIEWICZ, Aldona, mgr inż.

Development of the world production of polyvinyl chloride. Chemik
15 no.5:176-179 Maj '62.

1. Zaklady Chemiczne, Oswiecim.

TOYA-KOLESNIKOVA, M.K.

Vitamin A and carotene in the blood in cardiovascular diseases.
Vrach.delo no.5:467-473 My '60. (MIRA 13:11)

1. Vtoroye terapeuticheskoye otdeleniye (zav. - dotsent P.K.
Lipatova) L'vovskoy oblastnoy klinicheskoy bol'nitsy.
(VITAMINS--A)
(CAROTENE)
(CARDIOVASCULAR SYSTEM--DISEASES)

TOYA-KOLESNIKOVA, M. K., CAND MED SCI, "VITAMIN A AND
BLOOD CAROTENE IN CARDIOVASCULAR DISEASES." L'vov, 1961.
(MIN OF HEALTH UKSSR. L'vov STATE MED INST). (KL-DV, 11-61,
230).

-288-

TOYA-KOLESNIKOVA, M.K.

State of carbohydrate and vitamin A metabolism and the antitoxic function of the liver in blood circulation insufficiency. Nauchnoe trudy L'vov. obl. terap. ob-shva no. 1377-81 '61. (MIRA 1635)

1. Kafedra fakul'tetskoy terapii lechebnogo fakul'teta L'vovskogo meditsinskogo instituta (zav. kafedroy - prof. S.F. Oleynik).
(BLOOD-CIRCULATION, DISORDERS OF) (LIVER-DISEASES)
(METABOLISM, DISORDERS OF)

TOYA-KOLESNIKOVA, M.K.

Vitamin A and carotene in the serum of patients with heart
defects of rheumatic origin. Nauch. trudy L'vov. obl. terap.
ob-va no.1:212-216 '61. (MIRA 16:5)

1. Kafedra fakul'tetskoy terapii lechebnogo fakul'teta L'vovskogo
meditsinskogo instituta (zav. kafedroy - prof. S. F. Oleynik).
(RHEUMATIC HEART DISEASE) (VITAMINS-A) (CAROTENE)

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

SONGINA, O.A.; TOYBAYEV, B.K.

Reduction potentials of dissolved oxygen on a platinum electrode.
Izv. AN Kazakh. SSR. Ser.tekh.i khim.nauk no.1:8-10 '63.
(MIRA 17:3)

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

VAL'KO, A.V.; VENYAVSKIY, A.I.; UVITSKAYA, S.A.; TOYBAYEV, B.K.

Electrochemical properties of indium-containing amalgams.
Zhur. fiz. khim. 38 no.7:1839-1843 JI '64.

(MIRA 18:3)

1. Kazakhskiy gosudarstvennyy universitet imeni Kirova.

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

SOKOL'SKIY, D.V.; TOYBAYEV, I.K.

Conductometric method of studying the liquid phase hydrogenation
catalysts. Elektrokhimiia 1 no.6:673-676 Je '65. (MIRA 18:7)

1. Kazakhskiy gosudarstvennyy universitet imeni Kirova.

TOYBAYEVA, V.Yu.

Rose of chalcopyrite. Izv. AN Kazakh. SSR. Ser. geol. 21 no.4:69-
71 Jl-Ag '64. (MIRA 1711)

1. Institut geologicheskikh nauk AN KazSSR imeni Satpayeva, Almaty.

TOYBER, M. A., elektromonter

Fastening and contact connection of fluorescent lamps. Energetik
8 no.5:27-28 My '60. (MIRA 13:8)
(Fluorescent lamps)

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4

TOYBER, M.A., elektromonter.

Voltage indicator. Energetik 5 no.1:28-29 Ja '57. (MLRA 10:2)

(Electric instruments)

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756420011-4"

ALEKSEYEV, Ye.K., inzh.; IZGUR, R.M., inzh.; LYUKE, Ye.P., inzh.; NIKO-LAYEVSKIY, Ye.Ya., inzh.; PIROGOV, A.N., inzh.; RODIONOVA, R.G., inzh.; TOYBIN, V.A., inzh.; FREYDLIN, G.M., inzh.; KHLYUPINA, A.K., inzh.; CHERNOV, D.L., inzh.; EYDEL'HANT, L.B., inzh.; ZEMUR, N.S., inzh., retsenzent; MOLYUKOV, G.A., inzh., red.; TIKHANOV, A.Ya., tekhn.red.

[Production and installation of pipe systems; reference manual]
Izgotovlenie i montazh tekhnologicheskikh truboprovodov; spravochnoe posobie. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1960. 574 p.
(MIRA 13:7)
(Pipe fitting)

TOYDZHANOV, Kh.T.

Growth of active prune roots in the course of a year. Izv. Ak.
Turk.SSR.Ser.biol. nauk no.4:79-81 '65. (MIRA 18:9)

1. Kizyl-Atrekskaya opytnaya stantsiya subtropicheskikh kul'tur.

Country : USSR
Category : Soil Science. Soil Genesis and Geography.

Abs. Jour.: Ref. Zher.-Biologya No. 11, 1956. No. 48588

Author : Vclodin, A.M.; Toykka, M.A.

Institute : Petrozavodsk University

Title : Geographic Distribution of the Turf Shungite Soil
in Zaonezhskiy Rayon in the Karelian ASSR

Orig. Pub.: Uch. zap. Petrozavodskogo un-ta, 1956, 7, No. 3,
138-157

Abstract : These turf-shungalite soils in Zaonezh'ye stem
from the occurrence of black carbonaceous schists
and moraine which have been enriched by the
weathering products of these schists. These soils
are distributed along ridges running in a north-
westerly direction and on their slopes. Under
these conditions soil formation occurs according
to the turf type without any indication of podzol

Card: 1/3

11

Country : USSR
Category : Soil Science. Soil Genesis and Geography.
J
the Jour. : Ref. Zhur.-Fizologiya No. 11, 1958. №.48588

Author :

Institute :

Title :

Orig. Pub.:

Abstract : formation. These soils have a dark color, a lumpy granular structure, and their aggregates are extremely water stable (surpassing the chernozems). Of the seven variants of turf-shungite soils, the argillaceous soils in the secondary shungite eluvium, whose soil profile is 50-90 cm thick with a well developed sod crust (8-10 cm) have the most valuable agronomic properties. The humus content of these soils is 4.3% in horizon A

Card: 2/3

Country : USSR
Category : Soil Science. Soil Genesis and Geography.

Abs. Jour.: Ref. Zhur.-Biologiya No. 11, 1958. No. 48588

Author :
Institute :
Title :

Orig. Pub.:

Abstract : and 3.21 at a depth of 100 cm, representing about 500 tons/ha.; the N content is 14 t/ha. The soil absorptive complex is saturated with Ca and Mg, while H is completely absent. The turf-shungite sandy-loam and sandy soils have humus horizons 40-50 cm thick with a humus content of 3.7% (0.769 percent at a depth of 50 cm). Ca predominates in the absorptive complex.--S.A. Nikitin

Card: 3/3

12

MIRONOVA, M.P., dotsent; MUZALEVA, L.D.; TIKKA, M.A., dotsent

Results of the use of trace elements as fertilizers in Karelia
and tasks for further studies. Uch.zap. Petrozav.gos.un. 11
no.4:4-9 '63. (MIRA 1961)

1. Kafedra botaniki i fiziologii rastenij i khimii Petrozavodskogo
gosudarstvennogo universiteta.

GRIVTSOVA, G.I.; TOYKKA, M.A., dotsent

Cobalt, copper, and zinc content of feeds and soils in the
Shuya region on a section of the Zaitsev State Farm. Uch.
zap. Petrozav. gos. un. 12 no.3:28-31 '64.

(MIRA 19:1)

1. Kafedra zootekhniki i neorganicheskoy khimii Petrozavodskogo
gosudarstvennogo universiteta imeni O.V. Kuusinena.

VOLODIN, A.M.; TOYKKA, M.A., dotsent

Some data on the trace element content of soil-forming rocks
in the southern part of Karelia. Uch. zap. Petrozav. gos. un.
12 no.3:88-91 '64. (MIRA 19:1)

1. Kafedra pochvovedeniya i mekhanizatsii i kafedra neorganicheskoy khimii Petrozavodskogo gosudarstvennogo universiteta imeni O.V. Kuusinena.